

**Claims:**

1. A method for determining a root cause of a problem case, the method comprising:
  - 5 (a) storing attribute data corresponding to a set of attributes;
  - (b) storing case data correlated to a plurality of cases;
    - (i) wherein each case comprises data correlated to at least one root cause,
    - 10 (ii) wherein each case comprises data correlated to a set of attribute values,
  - (c) storing at least one solved case and at least one trigger case in the stored case data,
    - 15 (i) wherein each solved case is correlated to a set of attribute values, wherein the set of attribute values for each solved case is unique compared to the set of attribute values for every other solved case, and
  - (d) providing each trigger case with a link to at least one fault isolation manual process for determining a root cause;
  - 20 (e) receiving at least one problem attribute value for at least one attribute correlated to the problem case; and
  - (f) determining a list of at least one potential matching case from said plurality of cases by:
    - (i) comparing the at least one problem attribute value to the set of attribute values for each solved case, and

- (ii) comparing the at least one problem attribute value to the set of attribute values for each trigger case.
- 2. The method of claim 1, further comprising the step of determining a list of relevant attributes for which at least one potential case has an attribute value and for which no corresponding problem attribute value has been input.  
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- 3. The method of claim 1, wherein step (d) comprises:
  - (i) comparing the at least one problem attribute value to the set of attribute values for each solved case, and
  - 10 (ii) comparing the at least one problem attribute value to the set of attribute values for each trigger case.
- 4. The method of claim 1, further comprising the step of:
  - (e) ranking said list of at least one potential case.
- 5. The method of claim 4, wherein step (e) comprises determining a case ranking value for each potential case, and wherein the case ranking value of potential cases corresponding to trigger cases is adjusted relative to the case ranking value of potential cases corresponding to solved cases.  
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- 6. A case-based reasoning system for determining a root cause of a problem case, wherein the reasoning system comprises:  
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  - (a) a case database comprising case data correlated to a plurality of cases,
    - (i) wherein each case comprises attribute data correlated to a set of attribute values,
    - 25 (ii) wherein the plurality of cases comprises:

- (1) at least one solved case, and
  - (2) at least one trigger case,
  - (iii) wherein each solved case comprises root cause data,
  - (iv) wherein each trigger case comprises a data link to at least one fault isolation manual process for determining a root cause,
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- (b) an input device for inputting problem attribute values correlated to the problem case;
  - (c) a processor programmed to determine a list of at least one potential case from said plurality of cases by comparing the at least one problem attribute value to the set of attribute values for each of the plurality of cases; and
  - (d) an output device for outputting the list of potential cases.
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7. The system as claimed in claim 6, wherein the processor is programmed to determine a set of relevant attributes for which at least one potential case has an attribute value and for which no corresponding problem attribute value has been input,
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8. The case-based reasoning system as claimed in claim 6, wherein the processor is further programmed to rank the set of potential cases based at least in part on the similarity of the problem attribute values to the attribute values of each potential case.
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9. The system as claimed in claim 6, further comprising a fault isolation manual database comprising data correlated to said at least one fault isolation process for determining a root cause, wherein said at least one fault isolation process comprises a plurality of steps to be completed.
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10. The system as claimed in claim 9, further comprising a tracking system for tracking the completion of each of said plurality of steps.

11. A method for determining a root cause of a problem case using a case-based reasoning system, wherein the reasoning system comprises:

- 5 (a) a case database comprising case data correlated to a plurality of cases,
- (i) wherein each case is correlated to at least one root cause,
- 10 (ii) wherein each case is correlated to a set of attribute values,
- (iii) wherein the plurality of cases comprises at least one solved case and at least one trigger case,
- (iv) wherein each trigger case comprises a link to at least one fault isolation manual process for determining a root cause,
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wherein the method comprises the steps of:

- (b) receiving at least one problem attribute value correlated to the problem case;
- 20 (c) determining a list of at least one potential matching case from said plurality of cases by:
- (i) comparing the at least one problem attribute value to the set of attribute values for each solved case, and
- (ii) comparing the at least one problem attribute value to the set of attribute values for each trigger case.

25 12. The method of claim 11, further comprises the step of:

- (d) determining a case ranking value for each potential case, and wherein the case ranking value of potential cases corresponding to trigger cases is adjusted relative to the case ranking value of potential cases corresponding to solved cases.
- 5    13.    The method of claim 11 further comprising the step of determining a list of relevant attributes for which at least one potential case has an attribute value and for which no corresponding problem attribute value has been input.
- 10    14.    The method as claimed in claim 11, further comprising the step of selecting a potential matching case.
- 15    15.    The method as claimed in claim 14, wherein if said selected potential matching case is a trigger case, the method further comprising the step of completing said at least one fault isolation manual process corresponding to the link comprised in said trigger case.
- 15    16.    A method of creating data for use in a case-based reasoning system, the method comprising:
- (a) storing solved case data correlated to a plurality of solved cases, wherein each solved case is correlated to a set of attribute values;
- 20    (b) storing trigger case data correlated to at least one trigger cases, and
- (c) for each trigger case, storing a link to at least one fault isolation manual process for determining a root cause.